

REMARKS/ARGUMENTS

Claim 8 has been canceled. Claims 1-7 and 9-22 are active in the case. Claim 4 stands withdrawn from consideration. Reconsideration is respectfully requested.

Objection to the Claims

The objection to Claim 8 is obviated by the cancellation of the claim. Withdrawal of the objection is respectfully requested.

Status Identifiers

Claims 1, 5, 7, 11 and 18 are now identified as previously presented claims. Claims 2, 3, 6, 9, 10, 12-17, 19 and 20 retain their status as original claims. Claim 21 remains as a previously presented claim and Claim 22 is currently amended. Claim 4 stands withdrawn. Claim 8 has been canceled. The status of each claim is properly identified. Entry of the amendment at least for purposes of appeal is respectfully requested.

Rejections Under 35 U.S.C. § 112 ¶ 2

The rejection of Claim 22 based on the issue that has been raised is believed overcome by the amendment made to Claim 22. The amendment does not raise a new issue after final. Accordingly, entry of the amendment is requested, as well as withdrawal of the rejection is respectfully requested.

Invention

The objective desired and achieved in the present invention is the provision of a means of manufacturing laminated glazing units that are provided with corrosion-protected transparent surface coatings. The laminated glazing unit of the invention has at least two

panes forming a composite with an inside and an outside, a first coated pane that is provided on a surface facing the inside of the composite with a corrosion protected transparent surface coating and at least one adhesive layer for coupling the panes together. The process by which the laminated glazing unit is prepared comprises removing the transparent surface coating proximate at least one edge of a coated pane to create an exposed region about the edge of the pane that is about 0.1 mm to about 5 mm from a peripheral edge of the pane along a main surface of the pane. An opaque protective layer is provided over the peripheral edge of the coated transparent layer after removal of the transparent surface coating from the edge of the pane. The protective layer is substantially impermeable to diffusion of water vapor and covers at least a portion of the exposed region of the coated pane and extending across a portion of the transparent surface coating beyond the edge thereof proximate the peripheral edge of the pane. The panes are then coupled together with an adhesive layer disposed therebetween to form the laminated glazing unit.

Rejection Under 35 U.S.C. § 103(a)

Claims 1, 5, 7- 9, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter et al, U.S. Patent No. 5,999,136 in view of Koontz, U.S. Patent No. 4,994,650 and Tweadey, II et al, U.S. Patent No. 5,131,967. This ground of rejection is respectfully traversed.

Applicants submit that a careful consideration of the Winter et al patent indicates that the patent is not relevant to the objective and the process of the present invention as claimed. Winter et al is concerned with a method of providing a glazing with an antenna, and in no way describes or suggests a method of so shaping and fabricating the edge region of two

glass panels that are to be bonded together so as to provide a protective seal around the periphery of the glazing that is produced.

Winter et al describes two different antenna systems on a glazing which are a directly connected antenna and a capacitively coupled antenna (see column 4, lines 57-59), and the methods by which they are prepared. Figure 3 of the patent and the supporting disclosure at column 3, line 58 to column 4, line 24 describes the directly connected antenna system where a single glass ply has an electrically conductive transparent coating 112 secured to a portion of a surface of glass ply 116. The coating is of an electroconductive ceramic hot melt paint as described in column 3 of the patent. An edge portion of the electrically conductive transparent coating 112 is covered with a connector 124, as shown in the figure, to which a conductive lead is attached. As to the capacitively coupled antenna embodiment of the patent, the same is shown diagrammatically in Fig. 4 and is described in columns 4 and 5 of the patent. That portion of Fig 4 that comprises ply 232 and connector 224 corresponds directly with ply 116 and connector 112 of Fig. 3. In the capacitively coupled structure of Fig. 4, the other side of ply 232 is provided with a coating of PVB adhesive which bonds to a surface of glass ply 216. The panel of this embodiment is completed by the provision of a transparent electroconductive coating 212 as shown. In operation electrical connection between layers 212 and 224 is achieved by a capacitive coupling because the intervening ply 232 functions as a dielectric body between the two electrically conductive layers 212 and 224. Thus, it is clear that the reference in no way teaches or suggests the present invention which has nothing to do with the fabrication of an antenna system on a glazing, but has everything to do with a modification of the edge structure of two bonded glass panels such that the result of the modification is to prevent corrosion of the structure by being impervious to water. That is, upon appropriate edge shaping of pane 2 as shown in Fig. 1 of the

application and removal of an edge portion of transparent coating layer 5, the peripheral region of the glass pane is provided with a layer of protective opaque material so that it overlaps a region of the transparent layer and completely covers the exposed edge of the transparent layer as shown in Fig. 1. The Winter et al patent fails to teach or suggest this procedure as claimed.

Applicants remain of the view that the combination of ply 232 and connector 224 of Fig 4 corresponds to the combination of ply 116 and connector 124 of Fig 3, because, in each instance, a connector is in direct contact with a glass ply. Of course, in the embodiment of Fig 3 the connector element is also in direct contact with the transparent electroconductive coating 112, whereas in Fig 4, the glass ply 232 and adhesive PVB layer 234, both dielectric materials, separate the connector 224 from the transparent electroconductive coating 212 thereby providing an antenna that is capacitively coupled.

Applicants remain of the opinion that even in view of the discussion above, the disclosure of Winter et al is not germane to the invention as claimed. It must be noted that a very important feature of the invention is that in the process of preparing a laminated glazing, at least two panes are joined together, as is clear from the language of the claims and as shown in Fig 1 of the application. Thus, Fig 3 of the Winters et al patent is irrelevant to the present invention solely on the basis that it only shows a single glass ply and not a composite of at least two plies or panes adhesively joined together which provide the structural context of the present process of the covering of a transparent coating on its peripheral area between two glass panes by an opaque protective layer. As To Fig 4 of the patent, although it shows a composite or laminated structure of two plies or panes, nevertheless, connector 224 is positioned alone on the outside of one glass ply and is in no direct connection whatever with layer 212. However, the present claims require in the context of two laminated glass panes

that the edge or margin area of a transparent coating between the glass panes be trimmed back to a small extent so as to expose a region between about 0.1 mm to about 5 mm from the peripheral edge of the pane, whereby, upon the application of an edge protecting opaque protective layer on the peripheral portion of the transparent layer, the protective layer extends over the exposed edge of the transparent layer thereby completely sealing the edge of the transparent layer from the elements. No such disclosure is provided by the Winters et al patent.

As to the Koontz patent, its suggested relevance to the disclosure of Winter et al is not understood. As seen above, Winter et al is concerned only with the fabrication of an antenna on a glass ply or combined glass plies, while Koontz is concerned only with the fabrication of a windshield which is provided with an electric field detector to detect discontinuity or break in the leads of a heatable windshield, thereby preventing arcing and associated overheating of the windshield. Further, neither of the patents has anything to do with a way or technique of modifying the peripheral edge construction of two glass plies or panels being boned together to form a glazing. Neither of the two references, on the other hand, is concerned with the structuring of the periphery of two glass plies or panels that are to be bonded together so as to form a water impervious seal about the entire periphery of the product glazing in order to prevent corrosion of the glazing, which is the objective and concern of the present invention.

The portion of the disclosure of the Koontz patent referred to by the Examiner is absolutely of no relevance to the edge construction of two glass panels being bonded together. In Fig 1, Koontz shows a single transparency 10 with bus bars 22 and 24. A coating 18 is provided on the transparency, but it is specifically well spaced apart from the periphery of the sheet of transparency as is clear from the position of edge portion 26 of the

coating. In fact, the position of the coating is such that it leaves specific portions of bus bar 24 uncovered so that electrical connection to bus bar 24 can be made without contact with bottom bus bar 22 and coating 18. Optionally, the periphery of the transparency can be provided with a mask to aid in the precise positioning of the coating on the transparency so that portions of bus bar 24 are left exposed. Clearly, the disclosure of Koontz does not teach or suggest the present invention as claimed.

Of the three primary patents that have been cited, at least Tweadey et al shows the bonding of two glass plies via a layer of PVB with a film stack layer being positioned therebetween as shown in Figs 1 and 2. However, there is no description of anything like the presently claimed process of manufacture in which specifically a transparent surface coating is removed proximate at least one edge of a coated pane to expose a region between about 0.1 to about 5 mm from the peripheral edge of the pane and then an opaque protective layer proximate the peripheral edge of the coated pane after removal of transparent coating is applied so that it extends across the edge of the transparent coating to effectively seal the transparent coating. Accordingly, Tweadey et al fails to suggest the invention, and therefore, withdrawal of the rejection is respectfully requested.

Claims 11-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter et al, U.S. Patent No. 5,999,136 in view of Tweadey, II et al, U.S. Patent No. 5,131,967. This ground of rejection is respectfully traversed.

Although the two cited patents disclose glazing units formed from bonded glass plies or panels, as is apparent from the discussion above concerning the two patents, there is no disclosure anywhere in the two patents of the removal of transparent coating from at least one edge proximate at least one edge of a coated pane to expose a region between about 0.1

to about 5 mm from the peripheral edge of the pane and then an opaque protective layer proximate the peripheral edge of the coated pane after removal of transparent coating is applied so that it extends across the edge of the transparent coating to effectively seal the transparent coating. Therefore, neither reference, whether considered alone or in combination suggest the laminated glazing as claimed in Claim 11 and its dependent claims. Accordingly, withdrawal of the rejection of the claims is respectfully requested.

Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter et al, U.S. Patent No. 5,999,136 in view of Shukuri et al, U.S. Patent No. 5,131,967 and Marquardt et al, U.S. Patent 5,908,675. This ground of rejection is respectfully traversed.

As is clear from the discussion above concerning the invention as claimed and the Winter et al patent, it is clear that the patent, which is only concerned with the positioning of the elements of an antenna on a single glass ply or a bonded combination of two plies, contains no disclosure of anything like the process of Claim 22 for the production of a laminated glazing unit as set forth in Claim 21. Further, the teaching of a means and method of providing the peripheral portion of a glass sheet with a stepped portion as described in Shukuri et al hardly teaches or suggests the specifics of the method claimed in present Claim 22 and the structure of the laminated glazing unit of Claim 21.

Still further, the edge seal shown and described in Marquardt et al is not the edge sealing structure of two bonded glass panels of the present invention as claimed. The present invention is clearly not the provision of a shaped sealing layer formed from an ethylene polymer emulsion as shown in the figures of Marquardt et al. Accordingly, the combined prior art does not suggest the invention aspects of present Claims 21 and 22, and withdrawal of the rejection is respectfully traversed.

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter et al, U.S. Patent No. 5,999,136, Koontz, U.S. Patent No. 4,994,650 and Tweadey, II et al, U.S. Patent No. 5,131,967 in view of Eisenfuhr et al, DE 23 44 616 and Glaser DE 196 32 240. This ground of rejection is respectfully traversed.

It is first pointed out that the features of present Claims 2 and 3 are not features of the present invention upon which patentability depends. Further, these two claims are dependent upon a claim, i.e., claim 1, which has been shown above to be clearly distinct and patentable over the Winter et al, Koontz and Tweadey, II et al patents. Accordingly, it is not apparent how the disclosures of the cited Eisenfuhr et al and Glaser documents overcome and improve upon the deficiencies of the primary references to bring the art closer to the invention, particularly where the secondary references are void of any teaching relevant to the features of present Claim 1. Accordingly, withdrawal of the rejection is respectfully requested.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter et al, U.S. Patent No. 5,999,136, Koontz, U.S. Patent No. 4,994,650 and Tweadey, II et al, U.S. Patent No. 5,131,967 in view of Carter et al, U.S. Patent No. 5,030,503. This ground of rejection is respectfully traversed.

It is pointed out that the feature of present Claim 6 is not a feature of the present invention upon which patentability depends. Further, the claim is dependent upon a claim, i.e., claim 1 through Claim 5, which has been shown above to be clearly distinct and patentable over the Winter et al, Koontz and Tweadey, II et al patents. Accordingly, it is not apparent how the disclosure of the cited Carter et al document, in disclosing a ceramic enamel coating composition, overcomes and improves upon the deficiencies of the primary references to bring the art closer to the invention, particularly where the secondary reference

is void of any teaching relevant to the features of present Claim 1. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 10 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter et al, U.S. Patent No. 5,999,136, Koontz, U.S. Patent No. 4,994,650 and Tweadey, II et al, U.S. Patent No. 5,131,967 in view of Goerenz et al, U.S. Patent No. 5,099,105. This ground of rejection is respectfully traversed.

It is pointed out that the glass bending aspect of present Claims 10 and 20 is not a feature of the present invention upon which patentability depends. Further, the claims are dependent upon Claims 1 and 18, which has been shown above to be clearly distinct and patentable over the Winter et al, Koontz and Tweadey, II et al patents. Accordingly, it is not apparent how the disclosure of the cited Goerenz et al document in column 4 of bending a glass windshield, overcomes and improves upon the deficiencies of the primary references to bring the art closer to the invention, particularly where the secondary reference is void of any teaching relevant to the features of present Claims 1 and 18. Accordingly, withdrawal of the rejection is respectfully requested.

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Applicants remain of the opinion that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'FD Vastine'.

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